RIVERS AND FLOODS

[River and Flood Division, MERRILL BERNARD in charge]

NOTE.—The report for February will be published in the March REVIEW.—*Editor.*

WEATHER ON THE ATLANTIC AND PACIFIC OCEANS

[The Marine Division, I. R. TANNEHILL in charge]

NORTH ATLANTIC OCEAN, FEBRUARY 1939

By H. C. HUNTER

Atmospheric pressure.—The northernmost regions, particularly the northeastern, had pressure averaging considerably below normal, but with several rapid changes between high and low readings. At Reykjavik, Iceland, the deficiency of the monthly average was almost a third of an inch, and the highest reading of the month was but 30.00 inches. Over these regions pressure was generally low from the 3d to the 7th and again from the 20th to the end of the month.

Substantially all other parts of the North Atlantic had pressure above normal, especially the area from the Gulf of St. Lawrence southward and southeastward to the 30th parallel of latitude and the areas adjacent to or between the Iberian Peninsula and Madeira. At Horta decidedly low pressure during the first 10 days was followed by high pressure which was almost constant thereafter till the final day of the month.

The extremes of pressure noted in available vessel reports are 30.91 and 27.90 inches. The higher mark was recorded on the American steamship *Exiria*, late on the forenoon of the 12th, near 39° N., 20° W. The low reading was reported by the Dutch liner *Noordam* as made at midnight of the 8–9th, at about 46° N., 37° W., when the vessel encountered the most notable Atlantic cyclone of the month.

TABLE 1.—*Averages, departures, and extremes of atmospheric pressure (sea level) at selected stations for the North Atlantic Ocean and its shores, February 1939*

Station	Average pressure	Departure	Highest	Date	Lowest	Date
	Inches	*Inch*	*Inches*		*Inches*	
Julianehaab, Greenland	29.34	−0.19	30.20	27	28.62	23
Reykjavik, Iceland	29.22	−.32	30.00	1, 13	28.59	21
Lerwick, Shetland Islands	29.60	−.12	30.21	1	29.12	25, 26
Valencia, Ireland	29.95	+.05	30.59	14	29.03	28
Lisbon, Portugal	30.22	+.12	30.56	11	29.53	1
Madeira	[1] 30.24	+.17	30.45	12	29.80	1
Horta, Azores	30.24	+.09	30.64	16, 17	29.58	5
Belle Isle, Newfoundland	29.83	+.12	30.48	14	29.12	23
Halifax, Nova Scotia	30.08	+.17	30.58	10	29.46	16
Nantucket	30.08	+.04	30.65	17	29.44	22
Hatteras	30.16	+.05	30.59	17	29.54	6
Bermuda	30.25	+.13	30.42	9	29.82	7
Turks Island	30.09	+.01	30.16	13, 17	29.98	23
Key West	30.09	+.02	30.29	12	29.95	3
New Orleans	30.08	−.01	30.59	22	29.66	3

[1] For 22 days.

NOTE.—All data based on a. m. observations only, with departures compiled from vest available normals related to time of observation, except Hatteras, Key West, Nantucket, and New Orleans, which are 24-hour corrected means.

Cyclones and gales.—The month was distinctly less turbulent than January just before it had been, yet the first half was a period of considerable storminess. From the beginning of the month until about the 11th one or more deep centers of low pressure were nearly always to be found in higher latitudes, chiefly to eastward of the 45th meridian, and reports of violent gales were numerous. On the 5th the American liner *President Roosevelt* encountered winds of hurricane force (12) near midocean, in latitude about 47°.

For the ocean as a whole the most important LOW of February was first noted as a weak center close to Hatteras on the morning of the 6th. On the following morning it was southeast of Cape Cod with much greater strength, and on the 8th it was near 44° N., 42° W., showing signs of uniting with another LOW to the northeastward. Developments came rapidly in the next few hours. On the morning of the 9th one center with pressure about 28 inches appeared on the chart near 48° N., 36° W., and a large area was under the influence of intense winds. This deep center then moved toward the north-northeast, its progress becoming rapid by the evening of the 10th, and soon the chief steamship lanes were free from its influence.

Within the area swept by the intense gales of this LOW, the British freight steamer *Maria de Larrinaga*, from Houston for the British Isles, sank with all hands during the night of the 8–9th, the position given in her call for aid being about 42° N., 47° W. Several vessels reported more or less structural damage from their encounter with this storm; also several were so delayed and expended so much fuel that they left their courses to make port for replenishing their supplies. The Belgian steamship *Gand* and the American *Sundance* reported winds of force 12 during the night of the 7–8th, when they were within the western semicircle of this storm.

There was one later instance of force-12 winds this month, reported by the German motorship *Kattegat*, westbound, in latitude 31° N., longitude 47° W., on the evening of the 10th.

About the middle of the month, and again about the 22d, waters close to the American coast were swept by storms which advanced so nearly northward that most portions of the North Atlantic were unaffected. Charts XIII and XIV show the conditions on the 16th and the 22d, respectively. The center of the earlier of these LOWS was over Pennsylvania on the morning of the 15th, thence moved to southern Labrador and on the 17th was near southern Greenland. A squall probably connected with this LOW disabled a small trawler off Cape Henry, and necessitated its being towed to port.

The second of these western cyclones was centered over Chesapeake Bay on the evening of the 21st, with only moderate strength, but was much stronger the next morning when east of Cape Cod. The following morning found it near the east coast of Labrador, whence it traveled on to southeastern Greenland in the next 24 hours.

Fog.—While fog was not very prevalent, yet substantially all portions of the North Atlantic to northward of 40° latitude, as well as portions just east of the United States coast had more than during January just preceding.

From the 60th meridian eastward to the eastern limits of the Grand Banks there was less fog than normal in February, and indeed before the 21st there was scarcely any. In midocean fog was almost completely absent, but